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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,597	07/03/2003	Beng Huat Chua	FS01-003	7261

7590 12/07/2006
STEPHEN B. ACKERMAN
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EXAMINER

WILLIAMS, LAWRENCE B

ART UNIT PAPER NUMBER

2611

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

81

Office Action Summary	Application No. 10/613,597	Applicant(s) CHUA, BENG HUAT	
	Examiner Lawrence B. Williams	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-28,30,40-54 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-25,29,31-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because:

a.) The examiner suggests applicant replace the phrase “receiver system receives” with “receiver system receiving”.

Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:

a.) Line 14 (information converted encoded) in paragraph [0017] of page 8 is unclear.

b.) The examiner suggests “transmission times” in line 6 of paragraph [0023] of page 6.

c.) The examiner suggests “antennas” or “antennae” in line 17 of paragraph [0042] of page 15.

d.) Lines 2-5 of paragraph [0045] beginning with “The selection priority....” of page 17 is unclear.

e.) The examiner suggest applicant replace “circuit **130 110**” with “circuit **130**” in line 12 of paragraph [0046] of page 17.

f.) Lines 11-12 of paragraph [0048] beginning with, “The optional stop signal...” are unclear.

g.) Line 12 of paragraph [0048] cites the reference numeral **195c**. The examiner assumes applicant meant **195n**.

h.) The examiner suggest applicant replace the phrase, “the then” with “then” in line 10 of paragraph [0051] of page 19.

Appropriate correction is required.

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

a.) The examiner suggests, "receiving a coded data modulated signal" or "receiving coded data modulated signals" in line 1.

b.) The examiner suggests, "for extraction of coded data" or "for extracting coded data" in line 10.

Appropriate correction is required.

5. Claim 14 is objected to because of the following informalities:

a.) The examiner suggests, "receiving a coded data modulated signal" or "receiving coded data modulated signals" in line 1.

b.) The examiner suggests, "variable transmission times" in line 3.

Appropriate correction is required.

6. Claim 18 is objected to because of the following informalities:

Art Unit: 2611

a.) The examiner suggests, “receiving a coded modulated signal” or “receiving coded data modulated signals” in line 1.

b.) The examiner suggests, “variable transmission times” in line 3.

Appropriate correction is required.

7. Claim 22 is objected to because of the following informalities:

a.) The examiner suggests, “receiving a coded modulated signal” or “receiving coded data modulated signals” in line 1.

b.) The examiner suggests, “variable transmission times” in line 3.

Appropriate correction is required.

8. Claim 31 is objected to because of the following informalities:

a.) The examiner suggests, “signal is not able to be created” in line 6.

Appropriate correction is required.

9. Claim 34 is objected to because of the following informalities:

a.) The examiner suggests, “created;” instead of “created,;” in line 9.

Appropriate correction is required.

10. Claim 37 is objected to because of the following informalities:

a.) The examiner suggests, “plurality of receiving transducers” in line 2.

Appropriate correction is required.

Art Unit: 2611

11. Claim 37 is objected to because of the following informalities:

a.) The examiner suggests, "plurality of receiving transducers" in line 2.

Appropriate correction is required.

Allowable Subject Matter

12. Claims 26-28, 30, 40-54 are allowed.

13. Claims 1-25, 29, 31-39 are objected to but would be allowable if rewritten to overcome the objections cited above.

14. The following is a statement of reasons for the indication of allowable subject matter:

The instant application discloses a diversity receiver for receiving a coded data modulated signal from a transmission channel. A search of prior art records has failed to teach or discloses alone or in combination:

“ a diversity receiver for receiving a coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, wherein said diversity receiver system comprises: a signal acquisition device in communication with the transmission channel for reception of said multiple copies of said coded data modulated signal, for evaluation of signal characteristics of one or more copies of said multiple copies of said coded data modulated signal, for extraction coded data, control

Art Unit: 2611

signals, and locking signals from the one or more copies of said multiple copies of said coded data; a diversity circuit in communication with the signal acquisition device to receive said signal characteristics and said coded data, said control signals, and locking signals, said diversity circuit selecting from said signal characteristics, said control signals, and said locking signals, one of said copies of said coded data modulated signals; and an error evaluation circuit in communication with the diversity circuit to receive the coded data from the selected copy of the coded data modulated signal, said error evaluation circuit evaluating said coded data signal for errors and providing an error signal to said diversity circuit indicating an error state of said selected data, wherein said diversity circuit selects a second copy of said coded data modulated signal” as disclosed in claim 1.

“a diversity receiver system for receiving a broadcast signal modulated with coded data, having multiple transmission paths, said diversity receiver comprising: a plurality of receiving transducers, each transducer acquiring said broadcast signal and converting said broadcast signal to a received electrical signal, said received electrical signal varying in magnitude dependant upon an intensity of said broadcast signal traversing said multiple transmission paths; a plurality of receivers, each receiver in communication with one of said receiving transducers to amplify and condition said electrical signal and to extract data and locking signals from said received electrical signal; a diversity circuit in communication with each of the plurality of receivers to receive said data and locking signals, said diversity circuit selecting one of the data signals from one of the plurality of receivers having a valid locking signal indicating said receiver is able to retrieve said coded data from the electrical signal; and an error evaluation circuit in communication with the diversity circuit to receive the selected data signal, said error evaluation

Art Unit: 2611

circuit evaluating said selected data signal for errors and providing an error signal to said diversity circuit indicating an error state of said selected data” as disclosed in claim 26.

“a diversity receiver system for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, wherein said diversity receiver system comprises: a plurality of receiving transducers in communication with said transmission channel, each transducer acquiring one of said copies of the coded data modulated signal from said transmission channel and converting said copy of the coded data modulated signal to a received electrical signal, said received electrical signal varying in magnitude dependant upon the transmission time and variable attenuation characteristics of said transmission channel; a transducer switch in communication with the plurality of receiving transducers, which upon reception of a transducer selection signal selects one of said the electrical signals of a selected receiving transducer; a receiver in communication with the transducer switch to amplify and condition said electrical signal from a selected receiving transducer and to extract said coded data, control signals, and locking signals from said received electrical signal. A diversity circuit in communication with the receiver to receive said signal characteristics and said coded data, said control signals, and locking signals, and in communication with the transducer switch, said diversity circuit selecting from said signal characteristics, said control signals, and said locking signals, generates the transducer selection signal designating one of said copies of said coded data modulated signals; and an error evaluation circuit in communication with the receiver to

Art Unit: 2611

receive the coded data from the selected copy of the coded data modulated signal, said error evaluation circuit evaluating said coded data signal for errors and providing an error signal to said diversity circuit indicating an error state of said selected data, wherein said diversity circuit generates a second transducer selection signal to select a second copy of said coded data modulated signal” as disclosed in claim 40.

Nor does the prior art teach:

“a method for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, said method for receiving the coded data modulated signal comprising the steps of: a) acquiring the multiple copies of coded data modulated signal; b) evaluating signal characteristics of one or more copies of said multiple copies of said coded data modulated signal; c) extracting coded data, control signals, and locking signals from the one or more copies of said multiple copies of said coded data; d) selecting one of said copies of said coded data modulated signals from said signal characteristics, said control signals, and said locking signals; e) performing an error check and correction upon said coded data; and f) if the error check and correction is not able to correct said coded data, repeating steps d) and e) until a data block is successfully received “ as disclosed in claim 14.

“a method for receiving a broadcast signal modulated with coded data comprising the steps of: a) acquiring said broadcast signal at one of a plurality of receivers; b) creating a locking signal indicating said receiver has successfully acquired said broadcast signal; c) if said locking signal is able to be created, repeating steps a) and b) until a locking signal is created indicating

Art Unit: 2611

successful acquisition of said broadcast signal; d) extracting one data block of a plurality of data blocks of said coded data from said broadcast signal; e) performing an error check and correction upon said data block for eliminating errors from said data block; f) if the error check and correction is not able to correct said data block, repeating steps a) through e) until a data block is successfully received; and g) repeatedly performing said error check and correction until all remaining data blocks of said broadcast signal are extracted and successfully checked and corrected for error” as disclosed in claim 31.

“a method for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, said method for receiving the coded data modulated signal comprising the steps of: a) setting a priority value for each of a plurality of receiving transducers, said plurality of receiving transducers in communication with the transmission channel such that said receiving transducers convert one of the copies of the coded data modulated signal to a received electrical signal; b) selecting one of the plurality of receiving transducers having a highest priority; c) evaluating signal characteristics of said received electrical signal from the one receiving transducer having the highest priority; d) extracting coded data, control signals, and locking signals from the received electrical signal from the one receiving transducer having the highest priority; e) performing an error check and correction upon said coded data; f) if the signal characteristics, control signals, locking signals, and results of said error check and correction indicate that the received electrical signal is not adequate for reconstruction of coded data from said received electrical signal, adjusting said priority value of said receiving transducer to a

Art Unit: 2611

lower priority; and g) repeating steps d) through f) until said coded data is successfully received” as disclosed in claim 46.

Nor does the prior art teach:

“an apparatus for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, said apparatus for receiving the coded data modulated signal comprising the steps of: a.) means for acquiring the multiple copies of coded data modulated signal; b) means for evaluating signal characteristics of one or more copies of said multiple copies of said coded data modulated signal; c) means for extracting coded data, control signals, and locking signals from the one or more copies of said multiple copies of said coded data; d) means for selecting one of said copies of said coded data modulated signals from said signal characteristics, said control signals, and said locking signals; e) means for performing an error check and correction upon said coded data; and f) means for repeatedly activating means d) and e) until a data block is successfully received, if the error check and correction is not able to correct said coded data” as disclosed in claim 18.

“an apparatus for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, said apparatus executing a process for receiving the coded data modulated signal comprising the steps of: a) acquiring the multiple copies of coded data modulated signal; b) evaluating signal characteristics of one or more copies of said multiple copies of said coded

Art Unit: 2611

data modulated signal; c) extracting coded data, control signals, and locking signals from the one or more copies of said multiple copies of said coded data; d) selecting one of said copies of said coded data modulated signals from said signal characteristics, said control signals, and said locking signals; e) performing an error check and correction upon said coded data; and f) if the error check and correction is not able to correct said coded data, repeating steps d) and e) until a data block is successfully received” as disclosed in claim 22.

“an apparatus for receiving a broadcast signal modulated with coded data comprising: a) means for acquiring said broadcast signal at one of a plurality of receivers; b) means for creating a locking signal indicating said receiver has successfully acquired said broadcast signal; c) means for activating the means of a) and b) until a locking signal is created indicating successful acquisition of said broadcast signal, if said locking signal is able to be created; d) means for extracting one data block of a plurality of data blocks from said broadcast signal; e) means for performing an error check and correction upon said data block for eliminating errors from said data block; f) means for activating the means of a) through e) until a data block is successfully received, if the error check and correction is not able to correct said data block; and g) means for repeatedly performing said error check and correction until all remaining data blocks of said broadcast signal are extracted and successfully checked and corrected for errors” as disclosed in claim 34.

“an apparatus for acquiring coded data from a plurality of receivers, each receiver in communication with one of a plurality receiving transducers to amplify and condition an electrical signal acquired by said receiving transducers and extract said coded data and locking signals from said received electrical signal, each receiving transducer acquiring a broadcast

Art Unit: 2611

signal and converting said broadcast signal to said received electrical signal, said received electrical signal varying in magnitude dependant upon an intensity of said broadcast signal, said digital signal processing system executing a program comprising the steps of: a) selecting one of said plurality of receivers; b) detecting said locking signal indicating said receiver has successfully acquired said broadcast signal; c) if said locking signal is not able to be created by said, repeating steps a) and b) until a locking signal is created indicating successful acquisition of said broadcast signal; d) extracting one data block of a plurality of data blocks of said coded data from said electrical signal; e) performing an error check and correction upon said data block for eliminating errors from said data block; f) if the error check and correction is not able to correct said data block, repeating steps a) through e) until a data block is successfully received; and g) repeatedly performing said error check and correction until all remaining data blocks of said electrical signal are extracted and successfully checked and corrected for errors” as disclosed in claim 37.

“an apparatus for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, said apparatus for receiving the coded data modulated signal comprising: a) means for setting a priority value for each of a plurality of receiving transducers, said plurality of receiving transducers in communication with the transmission channel such that said receiving transducers convert one of the copies of the coded data modulated signal to a received electrical signal; b) means for selecting one of the plurality of receiving transducers having a highest priority; c) means for evaluating signal characteristics of said received electrical signal from the

Art Unit: 2611

one receiving transducer having the highest priority; d) means for extracting coded data, control signals, and locking signals from the received electrical signal from the one receiving transducer having the highest priority; e) means for performing an error check and correction upon said coded data; f) means for adjusting said priority value of said receiving transducer to a lower priority, if the signal characteristics, control signals, locking signals, and results of said error check and correction indicate that the received electrical signal is not adequate for reconstruction of coded data from said received electrical signal; and g) means for repeatedly activating means of d) through f) until said coded data is successfully received” as disclosed in claim 49.

“an apparatus for receiving coded data modulated signal from a transmission channel, said transmission channel characterized by multiple transmission paths having variable transmission time and variable attenuation characteristics causing multiple copies of said coded data modulated signal, said apparatus for receiving the coded data modulated signal executing a process comprising the steps of: a) setting a priority value for each of a plurality of receiving transducers, said plurality of receiving transducers in communication with the transmission channel such that said receiving transducers convert one of the copies of the coded data modulated signal to a received electrical signal; b) selecting one of the plurality of receiving transducers having a highest priority; c) evaluating signal characteristics of said received electrical signal from the one receiving transducer having the highest priority; d) extracting coded data, control signals, and locking signals from the received electrical signal from the one receiving transducer having the highest priority; e) performing an error check and correction upon said coded data; f) if the signal characteristics, control signals, locking signals, and

Art Unit: 2611

results of said error check and correction indicate that the received electrical signal is not adequate for reconstruction of coded data from said received electrical signal, adjusting said priority value of said receiving transducer to a lower priority; and g) repeating steps d) through f) until said coded data is successfully received” as disclosed in claim 52.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Hayashibara discloses in US 2002/0159505 A1 Receiver and Receiving Method for Spread spectrum Communication.

b.) Kondo discloses in US Patent 6,728,919 B1 Mobile Telephone System and Site Diversity Reception Method.

c.) Siawik et al. discloses in US Patent 5,325,403 Method and Apparatus for Dual-Channel Diversity Reception of a Radio Signal.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

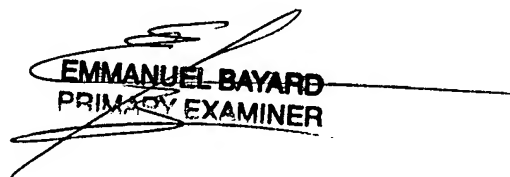
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Lawrence B. Williams



lbw

December 2, 2006



EMMANUEL BAYARD
PRIMARY EXAMINER